

THE LITTLE UNITY.

—* TENDER, ÷ TRUSTY ÷ AND ÷ TRUE.*—

VOL. II.

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No. 1

LICHENS AND MOSSES.

J. P. A.

The smooth bark of our trees is the home of a large class of humble plants known as lichens. If any of you examine the logs in the wood-box, you will find many of them completely covered with grayish or greenish patches of lichens, so that the bark itself is almost hidden.

Pitch pine is so rough and ragged that they cannot obtain a foot-hold; but oak, maple and beech are rarely without them. There is one very common on the trees of New England, which is a bright yellow, looking like a yellow leaf firmly joined to the bark; in the center are numerous little cups about the size of a pin-head, which are called the fruit. It is unfortunate that there is no common name for this plant. The botanists call it *Theloschistes*, and in some places, especially along the coast, the trunks of trees are fairly golden with it. Another very common variety is known as the *Parmelia*, and has a peculiar light-green leaf, growing in patches several inches across on trees and old stone walls; on this the fruit is larger, and dark chestnut in color. On the branches of old trees in the woods are often seen masses of long, grayish-green threads, which wave in the wind and look like an old man's beard. This is a lichen, though often called a moss, and is named *Usnea*; sometimes small pieces of it are found still clinging to the wood in the wood-box. But lichens grow on the ground as well as on trees and rocks. In dry pastures and barren fields the earth is frequently covered with the *Reindeer moss*, so called, because, in the north of Europe, where it grows abundantly, it is eaten by the reindeer. It is very nearly the color of the *Usnea*, and is several inches high, branching in every direction. When wet it is easily bent, but is very brittle when dry. It belongs to a large family of lichens called *Cladonia*, and if you examine carefully the tips of the branches, you will find the little brown masses known as the fruit. There is one *Cladonia* which must be familiar to every one; its slender stems, about an inch high, are tipped with bright scarlet heads, which make the gray rocks and old stumps around which they cluster, bright and gay with the rich color. The stems often end in cups bearing the red fruit on the edges; on that account it has been called *Red Cup Moss*. Search among old decaying stumps and you will surely find this lichen, looking like a cluster of green pins with red heads, thickly set in the earth. Sometimes on the sides of a rock a curious lichen is found, brown on top and black beneath, joined to the rock by a short stem, but hanging like a piece of old leather, loose and ragged. I have seen them as large as half a page of commercial note paper. This is the *Umbilicaria*; there is a smaller,

thinner one which loves the sun-light, and is often very abundant on old boulders and bare rocks; brown on the top and lighter beneath; it is covered with little projections like pustules, and hence named the *Umbilicaria Pustulata*. Lichens are the hardiest of all plants; they are more abundant in the colder climates, and are found nearer the pole than any other kind of plant. In fact, they rather like cold weather, and always grow more plentifully on the north side of trees and rocks than on the south, so that wanderers in the woods have often found the points of compass by this means. They are not injured by the intense heat of the sun in summer, they simply dry up and wait till rainy or damp weather, when they suck in the moisture and begin to grow again. On this account they are very long lived.

If we take a *Parmelia*, we find a thick, tough leaf, called by botanists the thallus, which clings to the tree or stone; growing up from the leaf-like, tiny toadstools are the cups which contain the seeds, or rather what correspond to the seeds in flowering plants. The seeds are so very small that they cannot be seen except by the aid of a strong microscope.

The fresh-water sponges and polyzoa produce at the beginning of winter a great many little seed-like bodies, which, when the parent animals die, sink to the bottom of the water, and in the spring are all ready to open and produce the little animals. Some of these "winter-eggs" are curiously surrounded with stout grappling hooks, which serve as anchors.

60 words

You would think it hard were a thick veil to be tied over your face whenever you went out of doors, so that you could only just see where to go, and no more; but if you merely use your eyes to make sure not to hit your foot against a stone, you yourselves tie a veil over your face, and lose almost all the pleasure of your walk.—
"The Guests of Flowers."—C. E. Meeker.

It is better for those who wish to observe accurately to see one thing twice than many things once.

—C. Kingsley.

IDEALS.

A great many years ago I heard from the lips of a dear friend, who was trying to invest with the highest interest the common lessons of the school-room, words to this effect:

"You must try to *idealize* your studies."

Now, what did she mean? Some of the younger girls hardly seemed to know, but some did, and one asked: "Can you *idealize* your school teaching, Mrs. B—?" The answer quickly came: "If I did not, I could never enjoy such hard, dry work; in fact, I should long, as

some of you do, for school to be done!"

Now, some one, whom I am sorry to say, I, for one, knew nothing about until this last year of his life, has been living among us for many years, who must have been idealizing his daily life, or he never could have left the record he has done. Think of it. What a record it is! *An obedient child, a good son, a true man, a faithful husband and father, a brave soldier for his country's life, and a trusted councilor in the legislative halls of his country!*

How did this thing come about? This man, when a mere baby, lost one of his natural guides in life—his father; but he listened, as he grew old enough, to his mother's teachings, which followed him into after life, strengthened him to repel the temptations which come to all of us, placing right and wrong squarely before his conscience and his judgment, and finally helping him to meet even the assassin's blow, with all its attendant suffering, through those weary weeks of anxious waiting, with the Spirit of the Great Ideal by whom he had striven to fashion his life.

He wrote in a letter to a friend, only a little while ago as 1874, when he had arrived at full manhood: "I hope I have lost none of my desire to be a true man, and keep ever before me the character of the great Nazarine." So, you see that James A. Garfield had an Ideal to live up to; that is, there had formed in his mind, as he went on in life, an "idea" of the best a boy could be or do, the highest that a man or woman could attain to,—something better than he knew himself to be, but something which he hoped to approach, as he lived on and did the work that came to him to do. And we know that the "Nazarine" had an Ideal that he strove "to live up to," and that was the Great Being whom he came to know and love so well that he called Him his "Father in heaven."

Now, cannot you boys and girls, and, as for that matter, we men and women, make the life of James A. Garfield our ideal of what an American citizen should be? To be a true American citizen means a great deal more than to be the citizen of any other country. Did you ever think about it? If you don't know it now, you will when you know more about the history of the world. Meanwhile, we can remember these things: We have a country full of wonderful resources for the brains and hearts of men; full of all sorts of material wealth waiting for us to develop its immense powers. Then, our Government, the result of the experiences and experiments of the Old World, formed and directed by our people themselves, is the strongest and freest in the world, "with freedom to worship God," without "let or hindrance," and with no man to make us afraid in the lawful "pursuit of our inalienable rights of life, liberty and happiness."

Think what a nation we could be if all men strove to idealize their lives, as did James A. Garfield, and all women were as noble, tender and true as were the mother and wife of this great, typical American citizen.

T.

He with good gifts that most is blest,
Or stands for God above the rest,
Let him so think—"To serve the dear,
The lowlier children I am here."—Jean Ingelow.

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TALKING TIMES AND THINGS TO DO.

Jenny declared with some show of indignation, when at our first meeting in February the little account-books were being balanced for January, "It isn't fair! There are so many wrong ways to do a thing and only one right way." It was well that the columns could show no dollars, to get themselves mixed with the uncertain and wandering figures which stood for cents, as this was, with nearly all the children, their first attempt at the business. And when the other work was brought out,—sewing, cutting for scrap-books, etc.,—Jenny's view of the subject was several times brought up again, more especially with the new comers; also with those who had before joined our meetings only in body, but not in spirit, because they had simply listened to the talk or reading, and watched the work go on without caring to take active part. Now they had waked up, and at this meeting had all caught the interest and supplied themselves with something to do, if it were only twisting lamp-lighters. One boy had gathered a quantity of large feathers and went to work preparing the quills for tooth-picks, making one especially nice quill into a pen for his grandfather, who would not write with anything else. Another boy had also gathered feathers, and having whittled a suitable handle was binding them tightly with wire to one end of it, to make a duster for his sister, who didn't like to dust. Little Katy was told she did not hold her scissors right. "See, you cannot cut the edges of your picture neatly, nor get along as fast, if you hold them round the middle and have to stop to push them open with every cut." "I can't help it; I learned this way, and it will be so much trouble to learn over again!" And "Anna, where is your thimble; didn't you bring one? I have a small one I think will fit you." "O, I never use a thimble! I began without, and it seems so clumsy every time I try to use one that I give it up." This will never do. Everything,—the smallest of things,—has a right way, or a best way, to be done. The right way is the quickest in the end, you may be sure. There isn't a lazy boy or girl in "The Industry," and that is the only kind of person who hasn't the courage to make himself do the right way when he can find out what that is. So, on with the thimbles and start new with the scissors! The right way will soon be the natural way. All the boys and girls who have learned the right way first, are so much ahead. Just think of the time we should lose out of our lives if we learned the little things wrong at first, and had to go back and learn them all over again. It is the small things we do that take the

most of our time, because there are so many. The smaller they are the more we wish to pass them readily by, with little or no thought. Therefore they must be learned rightly and become a habit, so that we may gain the more freedom from them for something more interesting.

WHAT TO READ.

From Ladies' Commission, 7 Tremont Place, Boston, Mass.

BOYS OF OTHER COUNTRIES. Stories for American boys. Bayard Taylor. New York: G. P. Putnam's Sons. 1876.

RANALD BANNERMAN'S BOYHOOD. George Macdonald. Phila.: Lippincott & Co. 1872.

ROMAIN KALBRIS. His Adventures by Sea and Shore. Hector Malot. Phila.: Porter & Coates. 1873.

HECTOR. Flora Shaw. 1881.

CASTLE BLAIR. Flora Shaw. Roberts Bros.

FATHER PHIM. Annie Keary. London: F. Warne & Co.

TOM BROWN'S SCHOOL-DAYS AT RUGBY. Thomas Hughes. Houghton, Osgood & Co. 1860.

Most boys and girls like to know how boys and girls in other countries live and what they are doing. Such knowledge you cannot get from histories, which are concerned with the doings of grown people. But if you can find books written for these other boys and girls, or written about them by people who know them, you get what you want. Let me tell you of two or three of such books.

One is Mr. Bayard Taylor's "Boys of Other Countries"—sketches of the boys whom he had met in his travels, which ranged from Egypt to Iceland. Mr. Taylor knew how to make friends with boys, and these boys are worth knowing:

Then of story-books, pure and simple, there is "Ranald Bannerman's Boyhood," the story of a Scotch boy, by George Macdonald, who tells of what he was himself. There is some Scotch dialect, which I hope will not trouble you much. If you will read it aloud, you will find that the sound will often help you to the sense.

Next I name "Romain Kalbris," the story of a French boy, by a Frenchman. It is full of adventure, and interesting from beginning to end; and it escapes being "sensational" because it is really for the boy more than his adventures that you care, and he is a good-tempered, manly fellow, who learns wisdom by experience.

If any boy who has read both these books will think them over, he may get a fair idea of the difference between French and Scotch people.

Another story of French children, younger than "Romain Kalbris," is "Hector," by Flora Shaw. It is a pleasant picture of the very simple life of French country people.

Two years ago Miss Shaw wrote a book about Irish children, called "Castle Blair." The children were certainly interesting, but, as some little friend of mine said, "they were *very* naughty," and unfortunately the grown people with whom they lived were neither wise nor kind.

If you read this book, and, indeed, whether you read it or not, let me recommend "Father Phim," which, as it happens, tells of exactly the same kind of life as that

of "Castle Blair." But the little girl in "Father Phim" soon finds that she is not wise enough to set the world right, and because she is willing to act upon the wishes of wiser people, she is able to do one brave and helpful thing.

Here you have Scotch, French and Irish children, and for an English boy there is none better worth your acquaintance than the one Mr. Thomas Hughes introduced to the world twenty years ago, and about whom boys, and girls too, have been reading ever since—"Tom Brown at Rugby." Rugby is one of the great public schools of England, and the story tells you what kind of boys go there, and how they live.

HOW A SPIDER GETS OUT OF PRISON.

Much amusement and information in regard to the habits and structure of spiders can be given to one or more children by securing a stick upright in a dish of water, placing on it a spider. Allow the dish to stand in a draught of air, with some article of furniture near, upon which he can throw his web when he finds that is the only way he can escape from his prison. His antics in trying to get away from the pole—which to him is not a liberty-pole—are very funny to watch. He will stretch out one foot, and when it touches the water he will shake it as pussy does when she walks in the wet grass. After several unsuccessful attempts to effect an escape, he will scamper to the top and begin to whirl around like a spinning-wheel—as he is, inside—then throw out a line, and as soon as the air has carried it to a resting-place he will begin to try its strength—as an elephant does a bridge that crosses a stream and he fears will not bear his weight—first with one leg and then the other; if not strong enough, he goes back—not as the elephant, through the water—but to send from his body a little more material to make it secure; and when the bridge is completed he will scamper across, delighted with the liberty he has earned.

A. L. S.

O, may it be that far within
My inmost soul there lies
A *spirit*-sky, that opens with
These voices of surprise?
And can it be, by night and day,
That firmament serene
Is just the heaven where God himself,
The Father, dwells unseen?

—Wm. C. Gannett.

May I govern my passions with absolute sway,
And grow wiser and better as my strength wears away.
—Walter Pope.

SERIAL STORIES will be contributed to the *Youth's Companion* during the coming year by W. D. Howells, William Black, Harriet Beecher Stowe and J. T. Trowbridge. No other publication for the family furnishes so much entertainment and instruction of a superior order for so low a price.

WIDE AWAKE for February is full of interesting reading. There is a particularly enjoyable account of Jacob Abbott among children, called "A Delightful Grandfather," which, with other short stories, continued stories and verses by our best writers, is happily illustrated.

Work is the weapon of honor.

"Unity" Sunday School Lessons—Series XII.

THE MORE WONDERFUL GENESIS; OR CREATION UNCEASING.

BY H. M. SIMMONS.

LESSON VIII.

THE CREATION OF LAND.

"THE THIRD DAY." PART I.

"The waters below" being thus roofed by the firmament and protected from the "waters above," the next act of the story is from them to create dry land. This work occupies the first part of "the third day" of Genesis: "God said let the waters under the heaven be gathered unto one place, and let the dry land appear."

THE ROCK FLOOR.

But how much more wondrous a work than in the story! After the attraction of gravity had globed, heated and lighted the earth; after, in the earth's cooling, the attraction of chemical affinity had combined the elements and created the compounds; then, with still further cooling, a new form of attraction appeared in the compounds, arranging their molecules in marvelous symmetry and beauty, and creating crystals. Probably much as now. See in the falling snow how cooling clouds have just crystallized into ice gems; see in any handful of sand how the cooling earth so long ago in like manner crystallized into gems of quartz. Doubtless in those old days the condensing rock-vapors often fell to the earth in storms of fire flakes of even more varied patterns than the snow. Often the crystals formed in the liquid surface, as they still do in freezing ponds, until the cooling earth was crusted with the primitive rocks.

When, with further cooling, the water-vapor had condensed in seas, the rock creation continued in them. For the primitive seas were charged with acids and various matter in solution, ever combining in new compounds, to settle in solid form. Often in the form of crystals;—see them everywhere in the stones about us, from the crystalline rocks to the little pebbles in the streets, whose smallest cavities often sparkle with gems, millions of years old, yet still as perfect as the fresh snow-flakes. The tides, too, which are supposed to have once been far greater than now, wore away the shore and bottom of the shallow ocean and re-shaped the rocks. The rivers added to the work. Most of the rocks we see are now supposed to have been created from the waters, by crystallization or deposit, though often changed afterward by heat.

So from molten matter or the seas the stone floor of the earth was laid, in granite and marble, tessellated with curious crystals, and wrought in mosaics of endless patterns and hues. And the waters, ever wearing and working over the primitive crust, laid floor upon floor in a long series,—Laurentian, Cambrian, Silurian, Devonian, Coal, Permian, Triassic, Jurassic, Chalk and Tertiary rocks,—an aggregate of many miles in depth, yet laid grain by grain through ages beyond all guessing.

RAISING THE MOUNTAINS.

Yet this rock floor, of so immense thickness, was folded like paper by the creative hand to form the mountains. Just as ice on a settling pond is curved, cracked, crowded and thrust upward in ridges by its own weight; so as the earth further cooled and contracted, its settling rocky crust was curved in vast valleys, cracked in great chasms, crowded with a force we cannot conceive, and thrust upward in long mountain ranges. The same gravity which rounded the rain drops and the earth, also sunk its sea-basins and lifted its mountain peaks.

CREATING THE CONTINENTS.

But the same force which raised these rock mountains, leveled them again in rich continents. By gravity the waters were ever "gathered together unto one place," ever falling in rain and rolling seaward in rivers. The rains softening the rocks with acid in summer, and splitting them with ice wedges in winter, slowly picked the crystal mountains to pieces. The streams rolled and wore the fragments, and bore the finer ones to the sea, to spread out thick strata of sandstone and clay, which the settling sea-beds again left dry. To learn this wearing power of water, read of our Western canons, where small streams have slowly cut long channels, sometimes a mile deep, in solid rock.

Even when crystallized in snow and hardened into ice, the waters were still "gathered together," as gravity slowly drew the glaciers downward. With what creative force! These glaciers, edged with imbedded rock and sand, like gigantic mill-stones, ground the granite cliffs into clay, and spread out the foundations of the fields over a large part of the world.

So the creative hand, taking for its tools these dainty snow-flakes and softer rain drops, as it gathered the waters to one place, crushed the rocks, carved the mountains and carted the chips along, building up broad continents of dry land, rich with fertile river valleys and wide plains and prairies.

AN UNENDING CREATION.

It was indeed "good." But the best thing about it is that this gathering together of the waters was not ended as in the story, but ever goes on with its ceaseless creation. For the gravity that heats the sun is ever lifting the waters again in vapor to soften the air, and bringing them

down in rain to give life to the earth. The old crystal-creation is still repeated in some springs and in every snow storm, and the glaciers still grind down many a mountain slope. From the chaos of mud which each rain and snow return to the fields, the hills are ever running to dry the land anew, and the rivers to spread valleys with new soil. Having flooded the earth for forests, they even float the timber downward, and saw it; having in the glaciers ground stones to soil to raise wheat, they still turn stones to grind the wheat for bread. So great and "good" a creation it is. In the current of every river the poet still reads this old creative sentence. In every brook he hears again the old words: "Let the waters be gathered together unto one place, and let the dry land appear;"—not the ended edict of a day, as in the story, but a ceaseless song of creation, and a sacred hymn of life.

LESSON IX.

THE CREATION OF PLANTS.

"THE THIRD DAY." PART II.

Dry land being thus made, and the world-tent flooded, the next step in the story is naturally to carpet and furnish it for use. This is the closing work of "the third day:" God said, "Let the earth bring forth grass, the herb yielding seed and the fruit tree yielding fruit."

THE SUCCESSIVE FORMS.

But what an infinitely longer work as science sees it! Not done in an afternoon, but doing through ages. Long before grass grew or the mountains were formed, came the water plants, which this writer does not think worthy of mention, but which are scarcely less important than those of the land. Not to speak of the lowest forms, and the beautiful diatoms and desmids, which are supposed to have filled the primitive seas; here were great algae which are still preserved as fossils through the thick rocks of the Silurian system. Long afterward, in the Devonian period, came mosses and ferns; and the latter, in the carboniferous times, rose into tree-like forms, and spread in thick forests, to purify the air and pack away the coal as we saw. Much later, in the Permian period, the first flowering plants, the palms and pines, came and grew in luxuriant abundance. Not till still later in the Triassic days did grass and the endogens appear, and with them the apetalous division of exogens, including many of our forest trees. Far later yet, in the Chalk period, came the first petaled exogens, including many of our fruit trees; and still later, in the Tertiary, their petals were first joined together in our beautiful cup corollas. So at least Haeckel dates the appearance of the various divisions.

CREATION BY EVOLUTION.

So long a work was this creation of plants. And how? Did a creator come down, as used to be thought, and make a parent form for each species when its time came? Or was this creation, like all others, by law, each form arising from a preceding? The latter, nearly all scientists say. Even this old writer represents the Creator, not visibly shaping plants, but more nobly working through law and nature: "Let the earth bring forth." To this old poetic sentence science itself responds in Biblical phrase: "The earth brought forth,"—each species in its order, and all by law, one form growing from another in the gradual process of evolution.

AN EVER PRESENT MIRACLE.

We may well believe it; for everywhere in the plant-world we still see the process of evolution, and no other. Here, too, the creation is ever continued. Notice how the waters of a summer shower, still "gathered together unto one place" in the little ocean of a hoof-hole in the street, are in a few hours green with vegetable creation. Put a drop under the microscope and see it swarming with curious protococcus plants swiftly swimming like fish. Whence have they come so quickly? From germs in the air too fine to see, we are told. But not less divinely for that. The same creative power which makes mist and worlds, compounds and crystals, to grow as we saw; has made these germs to grow still more wondrously. So they enlarge into these single-celled plants floating in the wagon rut as in the primitive seas.

From single cells like these, all our plants and forests are still created before our eyes. You may watch the cell lengthen and divide to form the delicate threads of the algae floating as a green scum on the road-side ditch. The great algae of the seas, longer than any tree trunk, have each grown from just as simple a cell. The tree too. The oak has come from an acorn, and the acorn in turn from a cell too fine for the unaided eye to see. We need not deny the evolutionist's doctrine, that all the species of plants have come from a few simple forms; for all still come from forms so small and similar that they can hardly be distinguished. They are still created,—by growth and evolution indeed, but not the less by that mysterious organizing presence and power we call God.

So the miracle is repeated. Every spring the roots, cells, seeds, so lately seeming dead, become centers of new creation; the grass carpet and leaf tapestry are woven anew in the loom of life; and all summer the creation of herb yielding seed, and tree yielding fruit goes on. We find the fiat, "Let the earth bring forth," not uttered once alone, but still spoken through every tree and grass blade, and written in every drop of water and grain of dust.